depression. Our objective was to see if depression was present in patients undergoing treatment for chronic pain with opioids and if improving pain, improves depression. **METHODS:** A standardized depression scale was administered to chronic stable pain patients on opioids for chronic non-malignant pain. They were scored and ranked. **RESULTS:** Out of 98 patients, only 15% had minimal to no depression by standardized testing. There was good correlation with subsequent clinical evaluation. Eighty-five percent (85%) had mild to severe depression. Those with moderate to severe depression were referred for specialty consultation. **CONCLUSIONS:** Depression is common in chronic pain and the level of depression may not be predicted by level of pain, analgesic, anti-depressant useage, or mental health follow-up. Depression is easily missed and under-treated. Depression does not always respond to the concomitant treatment of pain. Patients with chronic pain should be regularly screened for depression and appropriately referred for care.

PPN1

ESTIMATING THE INCIDENCE AND COSTS OF TREATING ADVERSE EVENTS IN PATIENTS TREATED WITH STRONG OPIOIDS FOR CHRONIC NON-MALIGNANT PAIN

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OBJECTIVE: Patients receiving strong opioids for chronic non-malignant pain frequently experience adverse events, placing a considerable burden on the patient and health care system. Evidence suggests adverse event rates may vary between treatments. **METHODS:** Patients treated with strong opioids for non-malignant pain were identified using the General Practice Research Database (GPRD). Three cohorts were identified: oral oxycodone, oral modified release morphine, transdermal fentanyl. Patients were matched for age, gender, morphine equivalent dose and prior exposure to strong opioids. Adverse events of interest were constipation and nausea and vomiting. Six months of data were collected for each patient either side of their first prescription date (index date) for a strong opioid. Incidence of treated adverse events was identified by prescription of laxatives and anti-emetics during the 6-month post index, where no prescription was present during the 6-month pre-index. Treatment costs were estimated using the BNF. The chi square test was used to test for differences in adverse event rates. **RESULTS:** Incidence of constipation requiring treatment was estimated at 15% in the oxycodone cohort, 15% in the fentanyl cohort and 22% in the morphine cohort. Rates for oxycodone and fentanyl were significantly lower than morphine ($p < 0.05$). For nausea and vomiting rates were 11%, 14%, and 14% respectively with no significant differences between cohorts. Mean treatment cost, per case of constipation, was £19.34 for oxycodone, £41.71 for fentanyl and £31.79 for morphine. For nausea and vomiting costs were £13.10, £22.06 and £11.09. **CONCLUSION:** Patients treated with morphine for non-malignant pain in this study were more likely to be treated for constipation compared to oxycodone or fentanyl. Treatment for nausea and vomiting was equally likely across treatment cohorts. Differences were observed in the mean cost associated with adverse event treatment. Further research would be valuable to confirm the findings of this study.

PPN2

RESOURCE UTILISATION OF PATIENTS WITH CHRONIC PAIN CONDITIONS BEFORE AND DURING TREATMENT WITH LONG-ACTING OPIOIDS IN GERMANY

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OBJECTIVES: Although use of long-acting opiod analgesics has increased for chronic pain, little is known about treatment patterns. Purpose of this study was to compare office-based utilisation data before and after initiating treatment with different long-acting opioids. **METHODS:** Retrospective analysis of Disease Analyzer (MediPlus) data over 5 years for patients with malignant diseases and orthopaedic diseases/chronic pain. Patients have not been treated with opioids in the 18 months before prescription. Observation period for resource utilisation (outpatient consultations, referrals, dug costs) started 6 months before and ended 6 months after first index prescription for the long-acting opioid of interest. **RESULTS:** Corresponding to the course of the disease number of referrals, consultations, costs of other drugs except of analgesics increased after initial prescription of opioids. When opioids were administered, costs for other analgesics decreased slightly compared to the pre-opioid period. Drug costs differed significantly. Highest opioid costs were determined for patients with malignant diseases which were treated with fentanyl (mean 681€ in first six months), followed by oxycodone (412€) and morphine (321€). Costs for opiod treatment for patients with non-malignant chronic pain and orthopedic conditions were 589€ (fentanyl), 370€ (oxycodone) and morphine (243€) respectively. No significant differences for costs for other medication were found. Patients treated with oxycodone showed significant less consultations compared to fentanyl or morphine. **CONCLUSION:** Type of opioid is an important factor for costs of treatment of chronic pain in the office-based setting in Germany. The analysis indicates that other resource utilization like consultation of physician could also be influenced. Due to the observational and retrospective nature of the database study patient reported outcomes were not included. Thus these outcomes and direct costs from hospitals associated with long-acting opioids treatment would merit further analysis in Germany.

PPN3

AN OBSERVATIONAL STUDY OF INTRAVENOUS PATIENT-CONTROLLED ANALGESIA RESOURCE UTILIZATION AT AN ACADEMIC MEDICAL CENTER

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OBJECTIVES: Intravenous patient-controlled analgesia (IV PCA) is widely used for postoperative pain management. The objectives of this pilot observational study were to define the tasks and personnel required for IV PCA administration and to identify problems arising with use of this modality. **METHODS:** This study was conducted at a single site academic medical center in Philadelphia, PA, USA. Process flow diagrams were developed based on interviews and observations conducted in the central supply, biomedical engineering, pharmacy, and nursing departments. The diagrams mapped all steps in the process of IV PCA administration within each department. Problems related to IV PCA administration were also recorded. **RESULTS:** Forty-two patients who underwent hip replacement surgery were selected for observation. Central supply collected, cleaned, and delivered IV PCA pumps to appropriate locations, and delivered malfunctioning pumps to biomedical engineering. Biomedical engineering evaluated malfunctioning pumps and performed routine maintenance on all pumps. Pharmacy prepared IV PCA syringes and delivered them to the nursing units. Nursing staff processed IV PCA orders, obtained pumps and set them up, redressed or restarted IV lines, educated patients, discontinued PCA, and